

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A fuel vapor management apparatus for an internal combustion engine, comprising:
 - a housing located upstream of an intake manifold, canister and purge valve and downstream of a vent port, the housing defining an interior chamber and a valve separating the interior chamber into first and second portions; and
 - a device including a temperature sensor disposed within the chamber, the device being configured to detect fuel vapor flow based upon a temperature detected by the sensor.
2. (Original) The apparatus of claim 1, wherein the device detects fuel vapor flow based upon a detected change in temperature.
3. (Original) The apparatus of claim 2, wherein the device includes a thermistor.
4. (Original) The apparatus of claim 3, wherein the device includes a resistor thermally coupled with the thermistor.
5. (Original) The apparatus of claim 1, wherein the valve is actuated by forces originating from a change in pressure between the first and second portions.
6. (Original) The apparatus of claim 1, wherein the valve is a pressure operable valve.
7. (Original) The apparatus of claim 1, wherein the sensor resides on a circuit board and the circuit board includes a pressure sensor.

8. (Original) The apparatus of claim 7, wherein the circuit board is disposed in the first portion and the first portion is in continuous fluid communication with the canister.
9. (Original) The apparatus of claim I, wherein the device calculates a flow rate.
10. (Original) The apparatus of claim 1, wherein the device has a first and second configuration, the first configuration including an enabled heating element and the second configuration including a disabled heating element.
11. (Original) The apparatus of claim 1, further including:
a pressure operable device comprising the valve; the sensor is disposed in the first portion; and
the first portion is in continuous fluid communication with a fuel vapor collection canister and the second portion is periodically in fluid communication with the canister.
12. (Original) The apparatus of claim 11, wherein the pressure operable device further includes:
a poppet movable along an axis and a seal adapted to cooperatively engage the poppet, wherein a first arrangement of the pressure operable device occurs when there is a first negative pressure level in the fuel vapor collection canister relative to the vent port and the seal is in a first deformed configuration, a second arrangement of the pressure operable device permits a first fluid flow from the vent port to the fuel vapor collection canister when the seal is in a second deformed configuration, and a third arrangement of the pressure operable device permits a second fluid flow from the fuel vapor collection canister to the vent port when the seal is in an un-deformed configuration, and wherein the pressure sensor signals the first arrangement of the pressure operable device.

13. (Original) The apparatus of claim 12, wherein the poppet is configured to move along an axis between a first position, a second position, and an intermediate position between the first and second positions.

14. (Original) The apparatus of claim 13, wherein the first and second arrangements of the pressure operable device comprise the poppet in the second position, and the third arrangement of the pressure operable device comprise the poppet in the first position.

15. (Original) The apparatus of claim 14, wherein a spring biases the poppet towards the second position.

16. (Original) A fuel vapor pressure and flow apparatus of a fuel system supplying fuel to an internal combustion engine, comprising:

- a housing defining an interior chamber, the housing being located upstream of an intake manifold, canister and purge valve and downstream of a vent port;

- a valve separating the interior chamber into first and second portions, the first portion adapted for being continuously exposed to fuel vapor and the second portion adapted for being periodically exposed to fuel vapor;

- a pressure sensor located within the interior chamber; and

- a flow sensor located within the interior chamber, the flow sensor including a thermistor.

17. (Original) The apparatus of claim 16, wherein the flow sensor includes a heating element.

18. (Original) The apparatus of claim 17, wherein the heating element is a resistor.

19. (Original) The apparatus of claim 18, wherein the thermistor and resistor are thermally bonded using one of epoxy and placing the thermistor on the resistor.

20. (Original) The apparatus of claim 18, wherein the resistor is one of conductive ink and a resistive gold leaf.

21. (Original) The apparatus of claim 16, wherein the thermistor and heating element are located in the first portion.

22. (Original) The apparatus of claim 16, further including:

- a pressure operable device comprising the valve;
- the flow sensor is disposed in the first portion; and
- the first portion is in continuous fluid communication with a fuel vapor collection canister and the second portion is in continuous fluid communication with a vent port.

23. (Original) The apparatus of claim 22, wherein the pressure operable device further includes:

- a poppet movable along an axis and a seal adapted to cooperatively engage the poppet, wherein a first arrangement of the pressure operable device occurs when there is a first negative pressure level in the fuel vapor collection canister relative to the vent port and the seal is in a first deformed configuration, a second arrangement of the pressure operable device permits a first fluid flow from the vent port to the fuel vapor collection canister when the seal is in a second deformed configuration, and a third arrangement of the pressure operable device permits a second fluid flow from the fuel vapor collection canister to the vent port when the seal is in an un-deformed configuration, and wherein the pressure sensor signals the first arrangement of the pressure operable device.

24. – 40. (Withdrawn)